<u>REMARKS</u>

Claims 1-30 were rejected under 35 USC 102 by reason of US 5,728,960 - Sitrick, US 5,665,927 - Taki, et al., US 5,559,301 - Bryan, et al., US 5,286,908 - Jungleib, US 5,331,111 - O'Connell, US 5,391,827 - Koyama, US 5,085,116 - Nakata, et al. or US 5,512,707 - Ohshima. Each of these patents is said to,

> disclose a musical display employing a graphical user interface to display various musical parameters.

It may be that recitation of the keyboard and related features only in dependent claims resulted in an undue lack of emphasis on the real time playing capabilities of the claimed musical instrument system. On the other hand, so many of the cited references are so wholly unrelated to real time playing of any musical instrument that many of the dependent claims do not seem to have been fully considered.

Rather than beat on this issue and on the claims as filed, applicants note that the claims in the corresponding PCT application have been deemed to be novel and to have an inventive step. The original PCT claims corresponded to the U. S. claims now under consideration. Most of the PCT claims, including claim 1, were deemed to lack novelty by reason of each of O'Connell, Yamada, et al. (US 5,220,117) and Fujimori (US 5,027,689). Several were deemed to lack inventive step by reason of Fujimori in view of Sone (US 5,499,921). Several others were deemed to lack inventive step by reason of Fujimori in view of Bryan, Jr. et al. All of these references were cited by applicants in this case, and most have been applied by the Examiner. At least three claims were deemed to contain allowable subject matter and these formed the basis for the independent claims now on file in the PCT application. A copy of the Notification of Transmittal of International Preliminary Examination Report is submitted

herewith, which includes the set of claims deemed to exhibit novelty and inventive step.

Applicants have amended the claims herein to correspond to the claims now pending in the PCT application. Claim 1 has been amended to incorporate the subject matter of claim 12, but without the intervening subject matter of claim 6. Claims 8 and 20 have been placed in independent form. It appears that claim 14 incorrectly depends from claim 6 in the PCT claims, rather than claim 8, and that dependency has been corrected herein.

Sitrick is directed to displaying musical compositions electronically, including transposed versions. Sitrick is not directed to real time playing of preprogrammed sounds or to real time allocation of keys on the keyboard to different sounds.

Taki, et al. is directed to a musical data (notes) input apparatus. Taki, et al. is not directed to real time playing of preprogrammed sounds or to real time allocation of keys on the keyboard to different sounds.

Bryan, Jr., et al. is directed to a touch screen interface having a particular arrangement for displaying pop-up slider and knob icons. The icons represent audio parameters associated with synthesized performance, including combinations of attack, brightness, release, timbre, volume, and depth (col. 3, lines 10-15). Bryan, Jr., et al. is not directed to any controllable parameter including real time allocation of keys on the keyboard to different sounds.

Junglieb is directed to a system for translating digital musical sequences into graphical form and vice versa. Junglieb is not directed to real time playing of preprogrammed sounds or to real time allocation of keys on the keyboard to different sounds.

O'Connell is directed to a work station for developing a model of a sound generating program and generating a sound to

test the model. O'Connell is not directed to real time playing of preprogrammed sounds or to real time allocation of keys on the keyboard to different sounds.

Koyama is directed to an electronic musical instrument used as an automatic performance apparatus (see preamble of all claims) having a musical tone parameter display for designating or editing tone pitch and other parameters related to tone. Koyama is not directed to real time playing of preprogrammed sounds or to real time allocation of keys on the keyboard to different sounds.

Ohshima is directed to panel device utilizing a stylus for entering data to program an electronic musical instrument, an activity which is clearly incompatible with real time playing of preprogrammed sounds and incompatible with real time allocation of keys on the keyboard to different sounds.

Yamada is directed to an electronic instrument which provides the ability to alter sound producing algorithms. Yamada is not directed to use of a graphical user interface to control real time key allocation to different sounds.

Fujimori is directed to simulating different instrument positions, not to use of a graphical user interface to control real time key allocation to different sounds.

Claim 1 as amended further recites,

> . . .
>
> an electronic music instrument <u>having a musical keyboard for playing</u> [, having] selectable groups of reproducible sounds and individually selectable reproducible sounds within said groups of sounds;
> . . .
> a graphical user interface for displaying at least one control graphic representing controllable parameters of said audio signals generated by said generator<u>, one of said controllable parameters including real time allocation of keys on said keyboard to different sounds</u>;
> . . .

None of the cited references teaches the use of a graphical user interface to implement real time allocation of keys on the keyboard to different sounds during playing, as recited in claim 1.

Newly independent claim 8 recites, in part,

> a graphical user interface for displaying at least one control graphic representing controllable parameters of said audio signals generated by said generator, one of said controllable parameters including key allocation responsive to said musical keyboard;

In accordance with claim 8, a controllable parameter of the graphical user interface can enable key allocation responsive to the musical keyboard. None of the cited references teaches such key allocation responsive to said musical keyboard.

Newly independent claim 20 recites, in part,

> an electronic music instrument having a musical keyboard . . .

> a graphical user interface for displaying at least one control graphic representing controllable parameters including audio characteristics of further sources other than said sources energized by said audio signal generator responsive to operation of said musical keyboard; and,

In accordance with claim 20, the graphical user interface not only controls the audio characteristics of sounds produced by the keyboard but audio characteristics of other digital sound sources. Such control by a graphical user interface is not taught in the cited refrences.

Other features were also deemed patentable in the claims of the PCT application, although not all of these features were placed in independent form.

Claim 6 now recites,

> 6.   (Amended) The system of claim 1, wherein said different sounds include multiple instrument sounds and sound layers.

None of the references teaches that multiple instrument sounds and sound layers are among the different sounds which can be allocated to the keys in real time.

Claim 10 now recites,

> 10. (Amended) The system of claim 8, wherein:
> said graphical user interface generates a further control graphic; and,
> a further one of said controllable parameters is key transposition adjustment for each sound layer responsive to operation of said further control graphic.

None of the cited references teaches key transposition adjustment for each sound layer by a further control graphic.

Claim 13 now recites,

> 13. (Amended) The system of claim 8, wherein another one of said controllable parameters is assignment of sound layers to ranges of said keys.

None of the cited references teaches assignment of sound layers to key ranges.

Claims 14 and 16 now recite,

> 14. (Amended) The system of claim 8, wherein other ones of said controllable parameters include drum syncopation, triggers, key change and volume.

> 16. (Amended) The system of claim 15, wherein still other ones of said controllable parameters include allocation of drum syncopation to different ones of said multiple channels.

None of the cited references teaches key allocation for drum syncopation.

As summarized in the International Preliminary Examination Report,

> Claims 1-30 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest allocation of a sound layer to keys on a keyboard, the
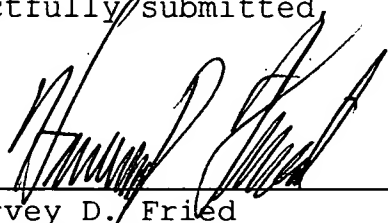
recited real-time allocation, key transposition adjustment for each sound layer, assignment of sound layers to key ranges, and drum syncopation and the claimed invention can be made in industry.

It is believed that the amended claims clearly distinguish over the prior art of record, and accordingly, prompt allowance is hereby respectfully requested.

In the event any issues of patentability remain unresolved in the Examiner's view, the undersigned respectfully requests an opportunity to conduct an interview with the Examiner prior to issuance of a further Office Action.

Respectfully submitted,

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